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ABSTRACT

Intended for educators on the postsecondary level, this annotated bibliography lists ERIC documents and relevant articles concerning computer assisted instruction. Specifically, it contains citations on the following subjects: (1) the philosophy behind computer usage, (2) general information to help decide whether to use computers in a writing program, (3) information on specific university writing programs and commercially available software, (4) practical suggestions and applications for implementing computer-based writing instruction, and (5) available bibliographies. (SRT)

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An Annotated Bibliography:

A Review of the Literature on Computer Assisted Writing

For the College Developmental Educator

Susan D. Huard and Patricia A. Malinowski

Over the past several years, computers have become an integral part of our society. As this technology is becoming prevalent in the writing classroom, more and more educators are faced with the question of whether or not to adopt this mode.

In order to make informed decisions regarding instruction, recent publications and research must be investigated. But often, starting is the difficult point. This annotated bibliography offers this starting point by listing what has been published recently in the areas of:

1. The philosophy behind computer usage.
2. General information to aid in the decision regarding the adoption of computer use in a writing program.
3. Information on specific university writing programs and commercially available software.
4. Practical suggestions and applications for implementing computer based writing instruction.
5. Available bibliographies.

This annotated bibliography was designed for educators on the post-secondary level and, for the most part, lists relevant articles and ERIC documents from the past four years.

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Annotated Bibliography

Alberta Department of Education. (1984). Evaluator's Guide for Word Processing Software. (ERIC ED 246 841).
The authors offer several methods to be used in the evaluation of software. They include checklists and forms which may aid in the evaluation.

Andrews, D. (1985, November). Writer's Slump and Revision Schemes: Effects of Computers on the Composing Process. Collegiate Microcomputer, pp. 313-316.
The author reports the findings of a survey at the University of Delaware concerning the use of computers for prewriting and revision. Overall results were favorable and showed that students viewed computer use as a means of overcoming "writer's block" and as an excellent revision aid.

Appleby, B. (1983). Computers and Composition: An Overview. (ERIC ED 240 546).
The author offers a philosophical view for the use of the computer in writing and also discusses several inherent problems.

Bacig,T., Larmouth, D., & Risdon, K. (1984, April). A Comprehensive Computer-Aided Program in Writing. Computers and Composition, pp. 1-23.
As a response to a staffing problem, the University of Minnesota-Duluth has designed a writing program which is heavily computer based. Their program emphasizes prewriting, invention and revision from an Aristotelian point of view concentrating on logic and argumentation. The software leads the student through a skill using the following paradigm: identification, sentence generation, single paragraph construction, multiple paragraph construction, essay development and finally research paper formulation. The student chooses a subject area at the beginning of the course and generates all of his individual assignments from within his topic area.

Bean, J. (1983, May). Computerized Word-Processing as an Aid to Revision. College Composition and Communication. pp. 146-148.
This article reviews a study at Montana State University which assesses the use of the computer in revision of compositions. The study suggests that the computer relieves the student of the drudgery of recopying by hand, often compels the student to make multiple

revisions and to experiment with idea expansion on the topic.

Becker, H. (1984, November). Computers in Schools Today: Some Basic Considerations. American Journal Of Education, pp. 22-38.
An excellent summary from a sociologist's point of view of the current status and use of computers in schools. There is a separate section on writing which explains the arguments for using word processing in the writing classroom while discussing some of the problems with present word processing programs.

Bickel, L. (1985). Word Processing and the Integration of Reading and Writing Instruction. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing. (pp. 39-45). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
This is a report of a study using word processing with skills deficient high school students. The results favor the use of computers because the students wrote more and developed self-monitoring reading strategies.

Blau, S. (1983, October). Invisible Writing: Investigating Cognitive Processes in Composition. College Composition and Communication, pp. 297-312.
The author reviews ideas of James Britton regarding blank page writing and applies the ideas to his own study. Results of Blau's work were positive, showing increased student writing ability and self-perception. The implications within this article support the use of the computer for blank screen writing.

Bork, A. (1984) Design Considerations. Computers in Composition Instruction. (ERIC ED 240 702).
Bork outlines the bad features of presently available software: poor layout of wording on screen, stilted timing, lack of clear directions, lack of meaningful content, lack of interaction, and unclear language. He also maintains that individual teachers cannot be responsible for the development of good software; as with a textbook, it takes a team of skilled experts.

Bourque, J. (1985, August). Word Processing on a Local Area Network. Collegiate Microcomputer, pp. 205-211.
This article details the author's successful use of the network over the micro-computer for CAI. The author deals mainly with the logistics involved and includes both the positive and the negative aspects which were

encountered.

Boylan, H.R. (Ed.) (1983) The Effects of Computer Based Instruction. Research In Developmental Education. A 1983 review of a study by Kulik, Kulik and Cohen which found that the overall positive effect of computer based instruction was minimal and produces the same outcome as individualized, conventional classroom instruction. The newsletter offers several suggestions for the developmental educator about the adoption of the computer for instruction.

Bridwell, L. & Duin, A. (1985) Looking in Depth at Writers: Computers as Writing Medium and Research Tool. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing, (pp.115 - 121). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
The authors report on two studies conducted at the University of Minnesota. In the first, it was found that when experienced writers are introduced to the computer, they generally use it as an electronic typewriter, doing a significant amount of their writing on paper before putting it on the computer. In the second study beginning college students were the subjects. In contrast to the first group, these students used the computer for all stages of writing: prewriting, writing and revising. However, they were less likely to revise, possibly because it looked like a finished copy on the monitor. Bridwell and Duin conclude that word processing is the preferred use of the computer (as opposed to CAI) and that further development is needed to create a word processing system which encourages faculty use and is compatible with many computer systems.

Bridwell, L., Nancarrow, P. & Ross, D. (1984). The Writing Process and the Writing Machine: Current Research on Word Processors Relevant to the Teaching of Composition. New Directions in Composition Research (pp. 381-398). New York: The Guildford Press.
This is a selective summary of software and research pertinent to writing. The authors define the various categories of research and then detail a representative study. They conclude the article with a description of their present research at the University of Minnesota.

Bridwell, L., Sirc, G. & Brooke, R. (1985). Revising and Computing: Case Studies of Student Writers. In S. Freedman (Ed.), The Acquisition of Written Language:

Revision and Response (pp. 172-194). Norwood, New Jersey: Ablex Publishing.
A report of the undergraduate study that examined the students' approach to revising on the computer. The researchers found that students became concerned about the visual appearance of their paper, and depending upon their level of comfort with the computer, would make extensive revisions if they already used this strategy prior to introduction to the computer.

Brown, J. (1985). Emphasizing Revision with Word Processing in Freshmen English Classes. (ERIC ED 258 279).
This author discusses ways to introduce the student to the use of the computer as a tool in the writing process. She emphasizes the need for personal supervision (the writing center director and the writing instructor), and the need for short initial tasks and practice. Final student evaluations showed increased student self-image and self-confidence in writing. The author also offers an excellent checklist for revision.

Burns, H. & Culp. G. (1980, August). Stimulating Invention in English Composition through Computer-Assisted Instruction. Educational Technology, pp. 5-10.
This article reviews a study at the University of Texas at Austin in which CAI is used for prewriting/thinking. The system used is an "open" system which encourages student response and interaction. The study found that CAI can increase invention in composition, can be quantitatively and qualitatively evaluated and can be individualized. Student response to the experiment was positive.

Burns, H. (1980) A Writer's Tool: Computing as a Mode of Inventing. (ERIC ED 193 693).
The author reviews the use of the tagmemic matrix heuristic to generate ideas. The author traces one student's progress through the program. Mr. Burns reaffirms the computer's future use in the classroom to stimulate thinking and generate ideas.

Burns, H. (1979) Stimulating Rhetorical Invention in English Composition through Computer Assisted Instruction. (ERIC ED 188 245).
Burns verifies the usefulness of his TOPOI program, which is based on Aristotelian dialogues, in a study involving students in four freshman composition classes at the University of Texas at Austin. His extensive statistical findings show that questioning dialogues help students define and refine their ideas for writing.

Chew, C. (Ed.) (1984). Computers in the English Program: Promises and Pitfalls. New York: New York State English Council Monographs.
This written monograph investigates the problems involved in computer usage, what has been used at all educational levels from elementary to college, methods of software evaluation and the future use of computers in the teaching of English.

Chicatelli, L. & Madden, F. (1985). Computer-Assisted Instruction in Writing: The Freshman Composition and Research Paper Assignment and Donald Davis' Topoi. In Insight : An Annual Collection of Articles on Teaching and Learning by Faculty of the Community Colleges of the State University of New York, 1984-1985, 22-25. (ERIC ED 254 279).
The program developed at Westchester Community College is described. It centers around the use of prewriting questions which have been patterned after Socratic dialogue.

Collier, R. (1983, May). The Word Processor and Revision Strategies. College Composition and Communication, pp. 149-155.
In a case study, the author gives an overview of the advantages and disadvantages of using the word processor for writing. His basic finding was that, as of 1983, writing on a computer neither enhanced nor hindered the student's writing process. He does suggest, that with the development of more advanced software, programs will be designed which will encourage the use of the computer for writing.

Collier, R. (1984, April). Writing and the Word Processor: How Wary of the Gift-Giver Should We Be? Computers and Composition, pp. 67-93.
Collier applies an art historian's pattern of evolution and advancement to the development of the use of word processors in writing. He considers the four phases in relationship to the writing process. He worries that word processors are changing the direction of writing instruction and the writing process itself. He cites essential differences between composing on paper and on computer. Until word processing software is developed which matches the features of composing by hand, Collier feels that the software seriously stifles and limits the writer's sophistication during both the composing and revising stages.

Collins, C. (1985, November). Interactive Literacy: The Connection Between Reading and Writing and the Computer. Collegiate Microcomputer, pp. 333-338.
The author discusses the advantages of using a reading/writing-computer approach with the developing writer. Results of such use will hopefully be reflected in students' reading comprehension and increased writing skills as the students see the connection between reading-thinking-writing.

Collins, J.L. & Sommers, E.A. (Eds.) (1985). Writing On-Line: Using Computers in the Teaching of Writing. Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
This is a balanced collection of essays examining the practical use of computers in the writing classroom. The basic thrust of the book is that while computers add to the writing process, they do not supplant good instruction.

Cottey, P. (1982). An Overview of the Computer as Teacher. (ERIC ED 217 490).
The author reports on the use of a drill and practice program in use at Northeast Missouri State University. Student and teacher response to the program was favorable.

Daiute, C. (1983, May). The Computer as Stylus and Audience. College Composition and Communication, pp. 134-145.
The author presents strong arguments - physical and psychological - for the use of the computer in writing. Among the advantages listed are: allowing the writer to generate ideas as quickly as he thinks, the computer's ability to store all of the writer's ideas, the ease of revision and the presence of an audience in the computer.

Dobrin, D. (1985). Limitations on the Use of Computers in Composition. (ERIC ED 261 395).
Dobrin argues that computers are unable to analyze text in the same way that a reader can. To support his case, Dobrin criticizes three programs (DICTION, STYLE, EPISTLE).

Eisenberg, Y. (1986, April). The Effects of Computer-Based Instruction on College Students' Interest and Achievement. Educational Technology, pp. 40-43.
This article deals with the results of Computer Based

Instruction (CBI) in two courses over a three year period. Findings showed that students enjoyed a "computerized course" in their curriculum and found that the experience was a positive learning situation.

Etchison, C. (1985). A Comparative Study of the Quality and Syntax of Compositions by First Year College Students Using Handwriting and Word Processing. Unpublished dissertation at the Indiana University of Pennsylvania, Indiana, Pennsylvania.
This study evaluated the writing of one hundred college freshmen and showed that students trained in the use of word processing improved to a greater degree in writing quality than those who used traditional pencil and paper techniques in freshman English composition. Quality in this case refers to number of words generated in an essay.

Forseth, R. (1985). Converting Freshman English to Word Processing: A Case History. (ERIC ED 263 604).
This article outlines the program developed by the author at the University of Wisconsin-Superior. He highlights the initial program, student reaction (which was positive), and future growth.

Harris, J. (1985, October). Student Writers and Word Processing: A Preliminary Evaluation. College Composition and Communication, pp. 323-330.
Research which followed the experiences of six composition class writers led Harris to conclude that the use of word processors inhibits a student's tendency to revise. Moreover, the revisions which do occur are seldom extensive and do not affect the macrostructure.

Harris, M. & Cheek, M. (1985, August). An Interdisciplinary Program Linking Computers and Writing Instruction. Collegiate Microcomputer, pp. 213-218.
This article reports on a program initiated at Purdue to aid students in an electrical engineering course. The intent was to help the students become familiar with the computer and at the same time improve their writing skills. The program was successful and the authors recommend the use of Writer's Workbench.

Haselkorn, M. & Connors, R. (1984, April). Computer Analysis of the Composing Process. Computers and Composition, pp. 139-158.
Researchers are able to gather information about the drafting stage in the writing process through the use of

RECOMP, a computer program developed by Louisiana State University based upon Flower and Hayes' protocol analysis. Information available includes the number of times a sentence which has been written is reviewed, the amount of time involved in writing the passage, deletions and additions to the text.

Herrmann, A. (1985). Collaboration in a High School Computers and Writing Class: An Ethnographic Study. (ERIC ED 258 256).
Herrmann followed the development of eight high school writers in one class. Since there were only six microcomputers, Herrmann felt there would be considerable collaboration. In fact, students were quite resistant. Four students ultimately began to collaborate through nonsense verse. The author stressed the development of self-esteem more than writing skills.

Hocking, J. (1983). The Impact of Microcomputers on Composition Students. (ERIC ED 229 791).
This article reports the author's observations of CAI in the classroom. She has designed her own programs to generate brainstorming ideas in a group of student writers. The program has been received positively by the students involved. The author further stresses that computers in the writing classroom are here to stay and CAI is not for every student or every instructor.

Horodowich, P. (1979). Developing Stylistic Awareness on the Computer: A Tagmemic Approach. (ERIC ED 198 530).
This article discusses the use of clause analysis in writing and stresses the importance of immediate feedback when using drill and practice exercises. The article is based on the author's extensive use of Hewlett-Packard's "Instructional Dialogue Author Facility" program.

Hubert, H. (1985). Computers and Composition: An Annotated Bibliography. (ERIC ED 261 405).
This is an extensive bibliography with long annotations for the sources listed. It begins with an eighteen page summary of the role of computers in writing. The central focus of this bibliography is on materials published after the initial bibliography published by Nancarrow, Ross and Bridwell (cited elsewhere in this bibliography). Selections which have been included deal primarily with freshman English composition.

Hull, G. (1984, April). The Use of Microcomputers in Basic

Writing. Computers and Composition, pp. 185-193.
A software program which is being developed at the University of Pittsburgh for use with basic writers is described. Its aim is self-correction. In order to accomplish this goal, the program is being designed to highlight categories of errors which appear within an individual student's work. It will also offer students practice in dealing with the errors located before proceeding to the next cluster of errors.

Hull, G. & Smith, W. (1985). Error Correction and Computing. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing (pp.89-101). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
The University of Pittsburgh's error correction program which uses student essays to alert students to grammatical errors is explained. A sample of exactly how the program operates is included.

Humes, A. (1982). Computer Instruction on Generating Ideas for Writing Description. (ERIC ED 220 868).
This article, though designed for the elementary educator, offers several good suggestions for using the Language Experience Approach to generate ideas for descriptive writing. The author also comments on the importance of computer literacy.

Hunter, L. (1983). Basic Writers and the Computer. (ERIC ED 237 975).
This article is based on the author's observations of one basic writing course and the effect computer use had on the students. For the most part, the computer served as an effective editing tool and allowed students to avoid the drudgery of rewriting and even begin to see the benefits of revision.

Kelly, T.J. & Anandam,K. (1982). Teaching Writing with the Computer as Helper. American Association of Community and Junior Colleges.
This pamphlet reviews the RSVP (Response System with Variable Prescriptions) system in use at Miami-Dade Community College. The authors emphasize the use of the RSVP Feedback Program for Individualized Writing through examples of the printout the instructor uses and the student receives.

Kneupper, C. (1980, May). Revising the Tagmemic Heuristic: Theoretical and Pedagogical Considerations. College

Composition and Communication, pp. 160-168.
The author reviews and criticizes the Young, Becker and Pike Tagmemic Heuristic and offers his own revision. This article is a good synopsis of the model that is so often mentioned in literature regarding the design of computer programs for writing.

Kuchinskas, G. (1984). Developing Interactive Language Experiences for the Computer. Computers in College Composition, pp. 65-73. (ERIC ED 240 702).
Computer programs should be interactive, personalized and positive language models.

Lansing, M. (1984). Computers in Composition: A Bibliography of Research and Practice. (ERIC ED 249 499).
This 1984 bibliography focuses on software programs (their development and use), student reaction and evaluation of CAI as well as studies which deal with the effect of CAI.

Leibowicz, J. (1982, December). ERIC/RCS Report: CAI in English. English Education, pp. 241-247.
This overview reviews the four types of CAI available for use in the English classroom and briefly describes commercially available programs.

Marcus, S. (1983, Summer). Real-Time Gadgets with Feedback: Special Effects in Computer Assisted Instruction. The Writing Instructor, pp. 156-164.
The author discusses the innovative ways computers can be used by the writer. Ideas such as invisible writing, the power of the cursor to expand, edit, delete, the use of peer editing and group writing and text analysis are reviewed. The author stresses the idea that writing on the computer allows one's ideas to become electric and fluid.

Moberg, G. (1986). Writing on Computers in English Comp. New York: The Writing Consultant.
This text deals with working on the computer from the group and peer editing aspect. The text also contains prewriting, essay and grammar exercises.

Nancarrow, P. (1982). Integrating Word Processing into a Freshman Composition Curriculum. (ERIC ED 235 493).
The author suggests two possible methods of integrating word processors into the English composition curriculum.

She further asserts that all beginning students in a word processing composition course need a program of ongoing exercises which introduce them to the various functions in the word processing program.

Nancarrow, P., Ross, D. & Bridwell, L. (1984). Word Processors and the Writing Process: An Annotated Bibliography. Westport, Connecticut: Greenwood Press. This book is a comprehensive listing of sources dealing with the use of computers in the field of writing from its inception to 1983. It does not list hardware and software per se. It is, however, the definitive sourcebook for persons interested in this subject matter.

Nickell, S. (1985). The Best of Both Worlds: Writing Conferences on the Computer. (ERIC ED 258 195). This article discusses the use of the computer and the student conference. The author stresses the ideas of feedback, input and revision and offers suggestions for setting up the student/instructor/computer conference.

Nold, E. (1975, October). Fear and Trembling: The Humanist Approaches the Computer. College Composition and Communication, pp. 269-273. The author points out that the computer should and can be used to help the student "probe and modify" and not just for drill and practice. She emphasizes the point that the computer can be an effective tool to encourage student thinking.

Paul, T. & Payne, D. (1983, Summer). Computer-Assisted Instruction: Teaching and Learning from Basic Writers. The Writing Instructor, pp. 193-199. The authors discuss the design of a spelling program of their own - Spellwell. The program is in use at the Iowa State University Writing Center and the authors are seeing favorable results in the students who have used the program.

Pufahl, J. (1986, February). Alone on the Word Processor: Writing and Rewriting. Teaching English in the Two Year College, pp. 25-28. In this article, the author suggests that familiarity with a word processing program will facilitate student revision and increase the length of the essay. He suggests that time be allotted to teach the word processing aspect at the beginning of a writing course. This will alleviate student fear of the computer and

will led to better idea development, fewer grammatical errors and more revision.

Rodrigues, D. (1985, October). Computers and Basic Writers. College Composition and Communication, pp. 336-339.
Rodrigues defends the idea of using computers with basic writers. She gives enormous computer support at the beginning of the semester to allow students to concentrate on their writing, rather than the elements of a word processing program. In a study involving twelve students, eleven passed the course and showed a new positive attitude toward writing, revising and collaborating.

Rodrigues, R. & Rodrigues D. (1984, February). Computer-Based Invention: Its Place and Potential. College Composition and Communication, pp. 78-87.
This article reviews three prewriting programs (Wresch, Schwartz and Burns) currently in use and offers one designed by the authors. The major idea behind all of the prewiting programs is that prewriting fosters good writing. Prewriting can be returned to any time during the writing process and can be easily done of the computer. The authors suggest that prewriting should be interactive and thoughtful. Student response to the writing tasks is positive.

Rodrigues, R. & Rodrigues, D. (1983). CAI Invention Strategies. (ERIC ED 229 789).
This article discusses interactive and non-interactive programs. The authors review programs designed by Ellen Noll, William Wresch, Hugh Burns and Helen Schwartz and categorize each as either interactive or non-interactive. The authors then describe their program which involves visual synectics to encourage creative problem solving techniques. The authors also pose several questions for further research in the area of CAI.

Rosenbaum, N. (1985, November). Issues and Prob ms with Research Involving Word Processing: A Teac 's Experience. Collegiate Microcomputer, pp. 357-363.
The article investigates the advantages and disadvantages of using the computer with the remedial writer. The author states that more research is needed in this area, but current research shows computer use does work with the remedial student and it is another strategy for the instructor to use.

Ross, D. (1985). Realities of Computer Analysis of Compositions. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing (pp.105-113) Upper Montclaire, New Jersey: Boynton/Cook Publishers, Inc.
The article examines text analysis programs available for the computer. The limitations of these programs is discussed and the author's own version is illustrated.

Roth, A. (1986, February). How to Become an Instant Computer Expert. Teaching English in the Two Year College, pp. 20-24.
The author, in a light-hearted tone, offers five steps for the English educator to use to become familiar with the computer. The article offers a good bibliography of articles, books and magazines for the computer user.

Salisbury, D. (1984, March). How to Decide When and Where to Use Microcomputers for Instruction. Educational Technology, pp. 22-24.
The author suggests that an educator use a three phase questioning process before computer use is adopted. The first phase deals with a needs assessment of the student and results in a need statement which is in two parts: what presently exists and what the desired result is. The second phase deals with instructional design and the author uses Gagne's Events of Instruction. The third phase deals with selecting the best solution for fulfilling the "need gap" and, if appropriate, it may be the use of the computer. His main idea is that the educator investigate the student and his needs before "jumping" into the new technology.

Schwartz, H. & Bridwell, L. (1984, February). A Selected Bibliography on Computers in Composition. College Composition and Communication, pp. 71-77.
An excellent bibliography citing articles and texts from 1973 to 1983. The authors deal with articles which describe computer programs available for CAI, relate how CAI and word processing can be used together and cite results from CAI. Articles are listed by original source and ERIC document number when available. There are also lists magazines and recent books. The authors' intent was to show "the best" which is available.

Schwartz, H. (1982, February). Monsters and Mentors: Computer Applications for Humanistic Education. College English, pp. 141-152.
The author divides present computer programs into four categories: text feedback, drill and practice

(GRAMMAR),simulations (POEMFORM) and tutorials (Burns' program and MARSYEBB). She comments on the effectiveness of each and problems which may be inherent. She then offers several suggestions for selecting programs and evaluating their worth. Her main point is that educators should make the computer work for themselves and their students and have fun while learning and expanding ideas.

Schwartz, H. (1984, March). Teaching Writing with Computer Aids. College English, pp. 239-247.
The author views CAI in writing as being divided into three areas: invention (prewriting programs such as that of Burns and the author), organization (ORGANIZE) and revision. She stresses the value of using the computer and word processor to free the student writer from the painful act of revision, while simultaneously allowing the student to generate more ideas and papers of greater depth. She also stresses the idea that the computer is an important tool in the individualized approach to teaching writing.

Schwartz, H. (1985, August). Using Computers in Writing: Educational Issues. Collegiate Microcomputer, pp. 219-223.
The author outlines the effectiveness of the use of the computer for data storage and retrieval of student work, CAI and feedback, utility programs and communication. The author also offers the idea that computer use allows students freedom in the right to choose various topics, honesty and humaneness, and "playful creativity." All can only be integrated into a writing course by an observant instructor.

Schwartz, H. (1983, October). Hypothesis Testing with Computer-Assisted Instruction. Educational Technology, pp. 26-27.
The author discusses the use of her interactive program, SEEN, in a literature course. The program consists of three phases: tutorial, an electronic billboard and printout. At this point, student response to the program has been favorable and the program has proven to be another way to get the student to think.

Schwartz, H. (1982). A Computer Program for Invention and Feedback. (ERIC ED 214 177).
The author outlines the use of the interactive program SEEN (Seeing Eye Elephant Network) in a literature class. Results of use of this program show students'

writing improves in the areas of length and detail.

Schwartz, H. (1985). Interactive Writing: Composing with a Word Processor. New York: Holt, Rinehart and Winston. At present, this is the only student text designed to teach writing using a word processor. It is a text which not only adapts conventional writing techniques for computer use, but also devises new strategies especially designed for the computer.

Schwartz, M. (1982, November). Computers and the Teaching of Writing. Educational Technology, pp. 27-29. This article advances solid ideas for the philosophy behind the use of the computer in the classroom and offers excellent advice for the novice computer writing instructor.

Selfe, C. (1985). The Electronic Pen: Computers and the Composing Process. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing (pp. 55-66). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc. A student survey done at Michigan Technological University concluded that the degree of student computer use for writing assignments has a wide range. Two representative student case studies are included. The author advises that teachers need to demonstrate more electronic prewriting techniques.

Selfe, C. & Wahlstrom B. (1983, Summer). The Benevolent Beast: Computer-Assisted Instruction for the Teaching of Writing. The Writing Instructor, pp. 183-192. This article is a positive review of the program, Wordsworth II.

Sommers, E. (1984, April). Classroom Research on Word Processing and Writing Processes. Computers and Composition, pp. 271-276. Sommers describes a research project to be initiated in the Fall 1984 semester. Pre and Post essays will be written by two groups of students. If there is a difference between the two groups, it will be attributable to word processing.

Sommers, E. (1985). Integrating Composing and Computing. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of English (pp.

3-10). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
The important writing work is still done by the teacher, not the computer. Sommers offers a short history of research in writing and reiterates the use of conferencing and the importance of audience.

Southwell, M. (1982,Winter). Using Computer-Assisted Instruction for Developmental Writing. AEDS Journal, pp. 80-91.
The author suggests that CAI will work with developmental students if instructors will design programs that will follow in instructional sequence, check retention, provide examples and explanations, check receptive understanding, check productive understanding, provide practice in creating meaning and test learning. The author points out that the advantages of CAI for the developmental student are two-fold: increase in self-esteem and improvement of attitude toward learning.

Southwell, M. (1983, Summer). Computer-Assisted Instruction in Composition at York College/CUNY: Grammar for Basic Writing Students. The Writing Instructor, pp. 165-173.
The author reviews Comp-Lab Writing Modules used at York College/CUNY as a viable alternative to drill and practice which is usually associated with grammar work on the computer. He enumerates the benefits of the auto-tutorial.

Spitzer, M. (1985). Selecting Word Processing Software. In J.L. Collins and E.A. Sommers (Eds.), Writing On-Line: Using Computers in the Teaching of Writing (pp. 29-36). Upper Montclair, New Jersey: Boynton/Cook Publishers, Inc.
The author outlines the features that are available in various software programs and offers a table for help in selecting the most appropriate word processing program for classroom use.

Stegman, M. (1984). Beyond Correctness: The Computer and the Composing Process. (ERIC ED 252 852).
This article offers suggestions for using the computer with a literature-writing class. The author offers several example exercises.

Suttles, A.L. (1983, Summer). Computers and Writing Contemporary Research and Innovative Programs. Computers, Reading and Language Arts, pp. 33-37.

This is a short overview of programs developed for writing classes in the early 1980's.

Tracey, R. (1983, Fall). The Word Processor and the Writing Process. Teaching English in the Two Year College, pp. 27-33.
The author of this article uses professional writers to enforce the idea that writing on the computer is a positive experience. He sees computer use as encouraging prewriting and multiple revisions, allows the student to see alternate versions of the text, allows for easy grammar correction and, in general, relieves the drudgery of the writing process and turns it into an enjoyable experience.

Wilcox, L. (1984, April). The Usefulness of Computer Materials Created by Teachers An Answer to Bork. Computers and Composition, pp. 293-305.
The author argues that education needs two types of software: that which is produced by a team of experts and that which is conceived and constructed by the individual instructor. He equates the notion of quality with usefulness, adding that no one program can be designed by a team or an individual such that it requires no supplementary materials. Unlike Bork, Wilcox sees an everlasting need for teachers.

Withey, M. (1983, November). The Computer and Writing. English Journal, pp. 24-31.
The author has investigated and discussed the advantages and disadvantages of the four ways the computer can be used by an English instructor: computer as tutor (drill and practice), computer with student as responder, computer as directed by the student and the computer as word processor. The author stresses the idea that the technology of the computer will be important in the classroom and that English instructors should become active in the selection and purchase of hardware and software.

Worley, L. (1984). Using Word Processing in Composition Class. (ERIC ED 243 127).
The author discusses what a good word processing program should contain, the lack of good current texts to accompany computer writing, the knowledge needed by the instructor to incorporate word processing and composition and the importance of the use of the computer for prewriting, writing and revision.

Wresch, W. (Ed.) (1984). The Computer in Composition Instruction: A Writer's Tool. Urbana,Illinois: National Council of Teachers of English.
This text contains a series of articles on computer use at the college level in the areas of prewriting, editing and word processing. The individual authors give examples of the use of WANDAH, Wordsworth II and similar programs. The text also contains an extensive bibliography.

Wresch, W. (1983, December). Computers and Composition Instruction: An Update. College English, pp.794-799.
This article is a review of three recognized programs: the prewriting program by Helen Schwartz, Richard Lanham's The Writer's Workbench and WANDAH which was developed by Ruth Von Blum. He cites programs which were being developed at this time: Wordsworth II, Essaywriter and a program being developed by Chris Neuwirth of Carnegie-Mellon. He then cites three research projects underway which deal with the use of word processor and its effectiveness. People involved are Collete Daiute of Columbia University, Lillian Bridwell and Donald Ross of the University of Minnesota and Steven Marcus at the University of California -Santa Barbara.

Wresch, W. (1982). Prewriting, Writing and Editing by Computer. (ERIC ED 213 045).
The author reviews four types of programs designed for the computer. The first asks students to think and respond (Burns). The second type consists of questioning and application (Wresch - University of Wisconsin-Marinette). The third investigates student essays for sentence embedding and word choice (Page and and Hiller). The fourth evaluates student essays in terms of length, sentence structure and so on (Lanham - UCLA).

Wresch, W. (1984). Writer's Helper: A System Approach to Computer Assisted Writing. Computers in Composition Instruction, pp 45-58. (ERIC ED 240 702).
The author explains the workings of this program, which is one of the few designed to help the student with the entire process of composing a paper. It has a prewriting section consisting of several programs to help the writer think of and narrow the subject, along with a powerful word processor and a set of evaluation programs. The writer can check her essay in terms of correct homonym choice, appropriate usage and style (use of passive voice, cohesion, length).

Wresch, W. (1984). Essay Writer: A Program to Help Students through the Writing Process. (ERIC ED 229 792).

The author details the construction of five step program for essay writing: select and narrow a topic, brainstorm, select mode (describe or argue) and develop ideas, put the essay together and copy. This program is very interactive and urges the student to think through all the steps the author has outlined to design a well written and developed product.